

Figure 1 is a network architecture diagram of a prior art system. The diagram shows a core network with various entities and their interconnections. On the left, two User Equipment (UE) blocks are connected to UTRAN and GERAN radio access networks, which in turn connect to the SGSN. The SGSN connects to the GGSN. The GGSN connects to the BG (Broadcast Gateway) and also has a dashed connection to the BM-SC. The BM-SC connects to the CBC, HLR, CSE, and Content Provider. The BG connects to the Multicast Broadcast Source. The Content Provider also connects to the Multicast Broadcast Source. The network is divided into a core network and a PDN (e.g., Internet) by a dashed line.

The diagram illustrates the network architecture of the UTRAN system, divided into three main sections: MS (Mobile Station), GERAN (GSM/EDGE Radio Access Network), and SGSN (Serving GPRS Support Node).

- MS (Mobile Station):**
 - Upper layers
 - PDCP
 - RLC
 - MAC
 - Phy
- GERAN (GSM/EDGE Radio Access Network):**
 - Relay
 - PDCP
 - RLC
 - MAC
 - Phy
- SGSN (Serving GPRS Support Node):**
 - Upper layers
 - GTP-U
 - UDP/IP
 - L2
 - L1

Connections are shown between the MS and GERAN (labeled *Um*) and between the GERAN and SGSN (labeled *lu*).

PRIOR ART

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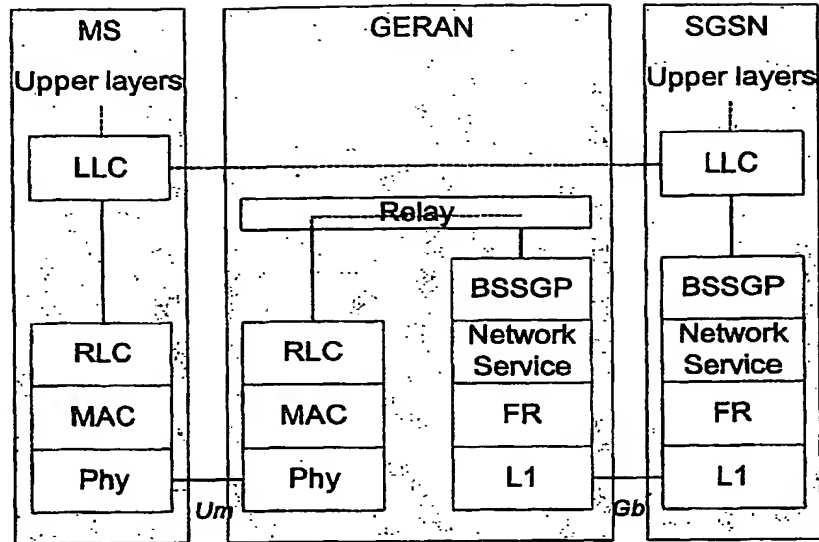


Figure 3

PRIOR ART

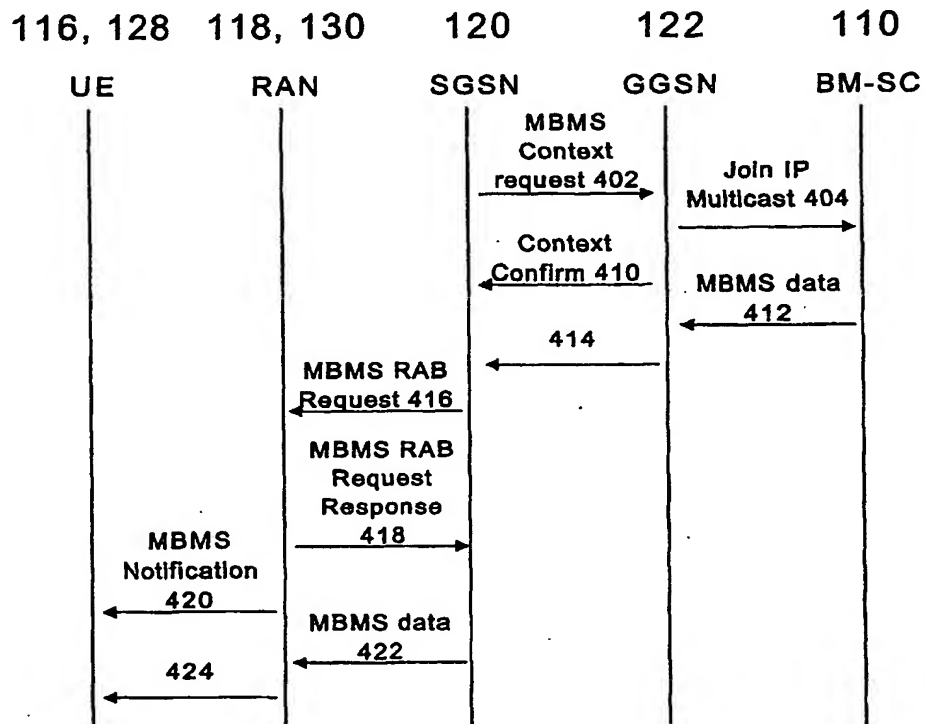


Figure 4

PRIOR ART

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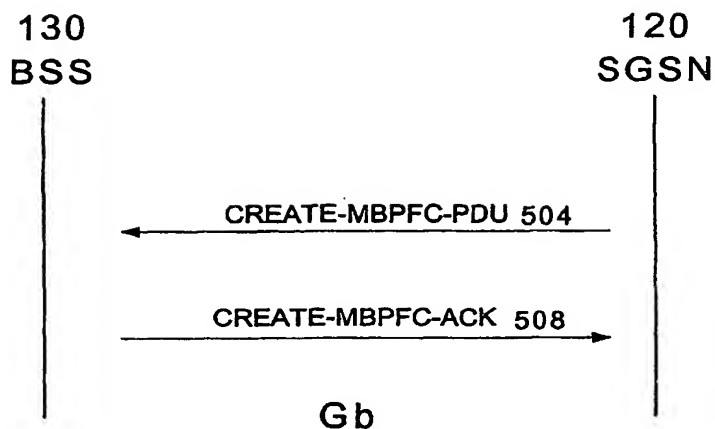


Figure 5A

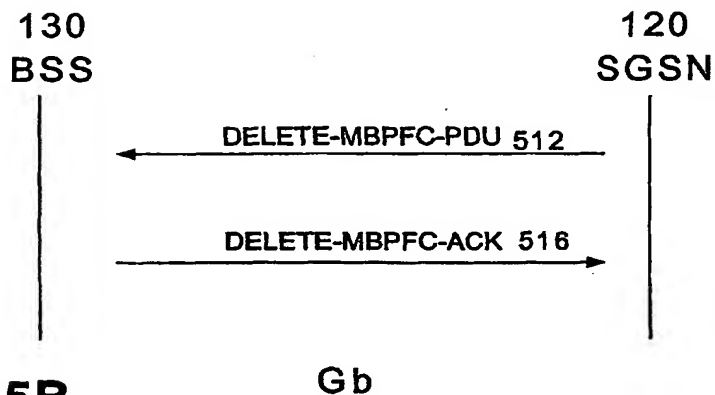


Figure 5B

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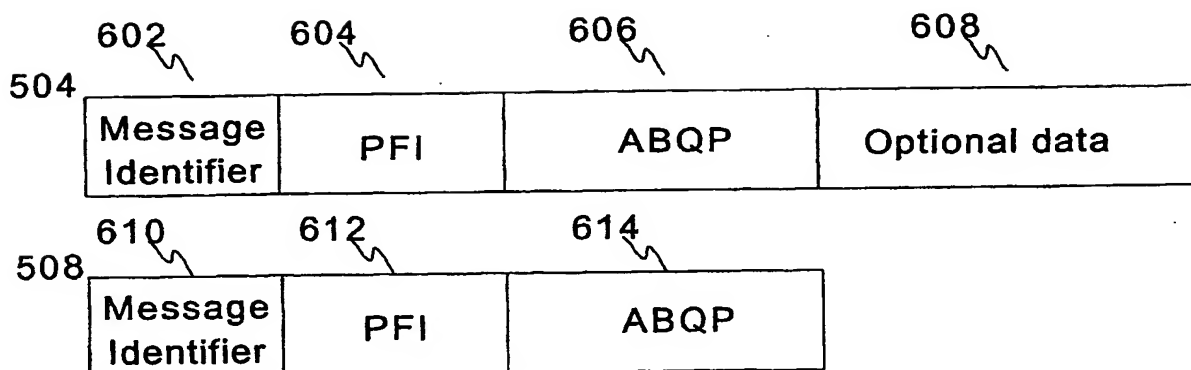


Figure 6

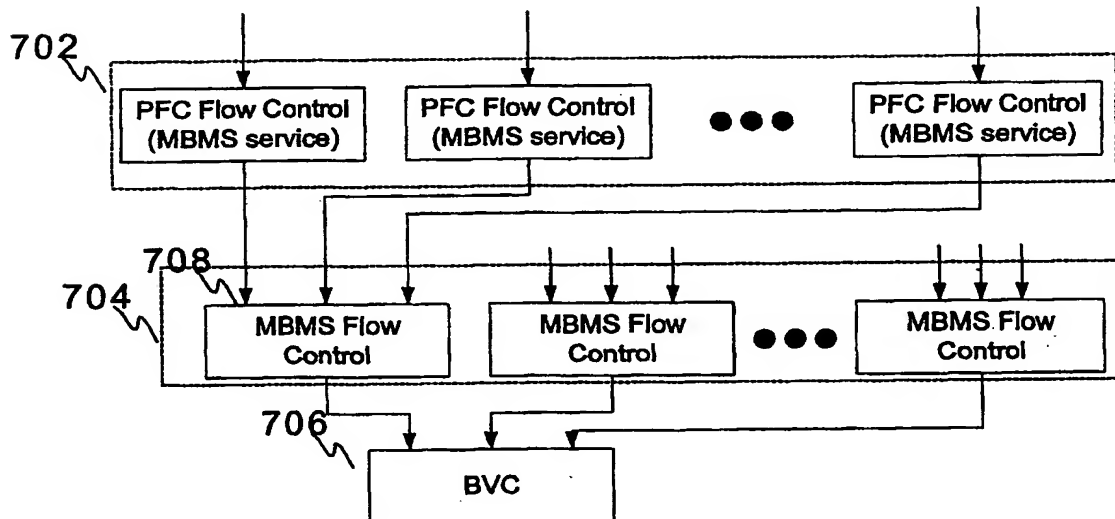


Figure 7

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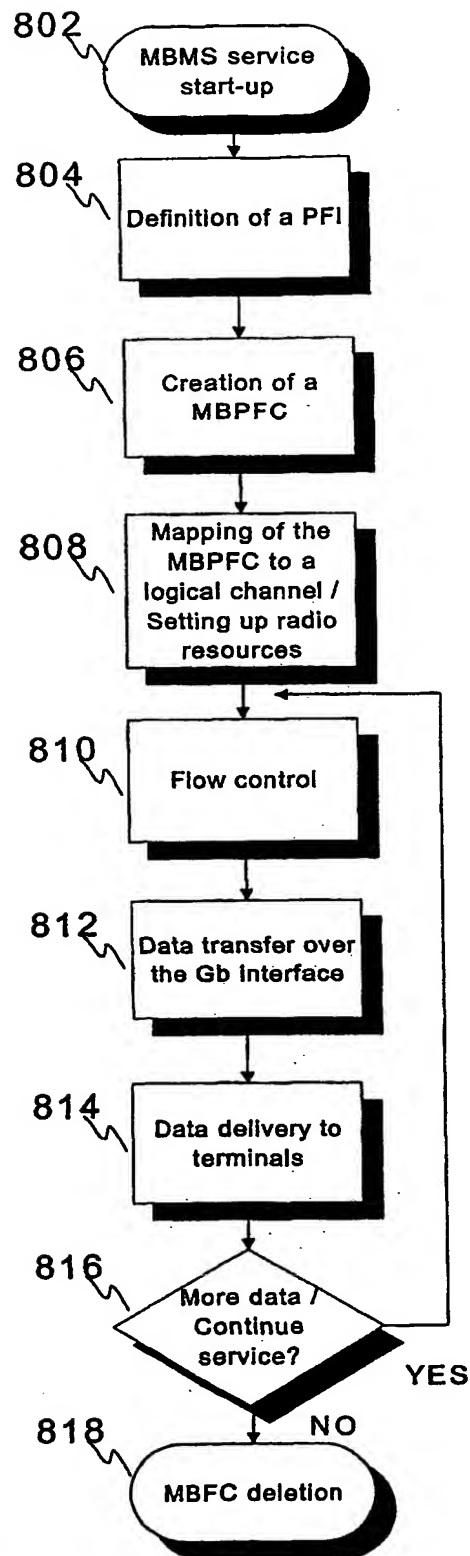


Figure 8